

## Effect of bedside teaching of Community Health Nursing on nursing students' practice in vaccination at Albaha University, Saudi Arabia

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### Abstract

**Background/objective:** Traditionally didactic method of teaching has been defined as scientific way or educational style to engage the student's mind which mainly focuses on conveying knowledge to the students. The aim of this study was to assess the effect of bed-side teaching of community health nursing on nursing students' practice in vaccination at Albaha University, Saudi Arabia. **Study design:** A quasi experimental design was used. All undergraduate nursing students attended community health nursing subject (30 students) at Albaha University during the academic year 2020/2021. The students enrolled in the practical part of community health nursing course were selected; students in first semester (comparison group, 12 students) and students in the second semester (intervention group, 18 students). Both groups received practical training on vaccination and vaccine administration with either traditional or bed-side teaching. Students' practice in vaccination was assessed through checklist before and after intervention. Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) software, version 22. **Results:** The students enrolled in community health nursing scored (56% and 76.3%) in traditional learning and bed-side teaching respectively ( $p=0.01$ ). The students enrolled in bed-side teaching scored significantly higher practice in vaccination than students in traditional teaching; the students in intervention group were 10.3% higher than score of students in comparison group. **Conclusion:** Bed-side teaching is an effective method for teaching community health nursing which improved the students' academic practice in vaccination.

**Keywords:** Bed-side teaching, community health nursing, nursing students, practice, Saudi Arabia.

### Introduction:

Mitral There are many clinical teaching methods to teach clinical skills for nursing students, among these methods, bedside teaching has been always an integral part of nursing education. It prepares nursing students to be able practice and aware about clinical principles in clinical settings (Cheraghi et al., 2019, Farzi et al., 2018). The clinical practice promotes students to use their critical thinking skills for problem solving (Dehghanzadeh and Jafaraghaee, 2018, Rykkje et al., 2022). In one previous study conducted 2018 in Iran on investigated the effect of bedside teaching on critical care nurses' performance in airway suctioning showed that using bedside approach for teaching suctioning procedures for nurses improved their skills related to the procedure (Ziyaeifard et al., 2018).

However, the COVID-19 pandemic and restrictions (Nurunnabi, 2021), bedside teaching is essential in medical education because it provides a good opportunity for students to apply theoretical knowledge (Shetty et al., 2021, Hayat et al., 2021). It also provides opportunities for students to expose to practical competencies that could not be acquired in classrooms (Heitmann et al., 2022, Gong et al., 2022).

Limited data was available about the use of bedside teaching in community health nursing.

**Aim of the study:**

This study aimed to assess the effect of bedside teaching of community health nursing on nursing students' practice in vaccination at Albaha University, Saudi Arabia.

**Materials and methods:****Study design and setting of the study:**

This is a quasi-experimental study which was conducted among nursing students attended community health nursing practice at Aqiq Health Center. It is one of the main primary health care centers to provide essential health services to the population in Aqiq city, AL-Baha, Saudi Arabia.

**Sampling and sample Size:**

A convenience sampling technique was used among registered nursing students in the course of community health nursing in the two consecutive semesters 2020/2021. The author explained the intervention to the enrolled students either in intervention group (18 students) or control group (12 students).

**Data collection technique and tools:**

The data was collected by observation for nursing students during their practice in the vaccination units at primary health care centers. The author adopted checklist from one study by Shehata et al., (Shehata et al.), which in the study entitled effect of educational program for nurses on their knowledge and practice regarding obligatory vaccination for children. It was approved by two associate professors of nursing at Albaha University and the reliability approved by Cronbach's alpha coefficient above 0.7. the checklist includes four main parts: part one for demographic variables, part two for oral administration skills, part three for subcutaneous administration skills, and part four for intramuscular administration skills.

**Scoring system:** For practice done correctly was given score of two, the

incomplete practice was encoded by one and wrong practice or not done was given score of zero. The total score from the overall score given for each participant then converted into percentage, the practice 60% of above was considered as satisfactory and the practice less than 60% was considered as unsatisfactory.

**Data Analysis:**

The data was analyzed by using the SPSS program, version 22. Primarily, all gathered data via the checklist was encoded into specific variables. The author used Kolmogorov-Smirnov test to ensure normality of the collected data. Then the analysis was carried out by descriptive and inferential tests. A p-value of less than 0.05 was considered as significant relation.

**Results:****Results summary:**

The participated nursing students age average was 22 years in both intervention and control groups. They did not have previous experience in vaccination process and their cGPA was similar 3.5 of intervention group and 3.6 in the control group (table 1).

After intervention the nursing students' practice was assessed in three main parts. Their practice skills in vaccine oral administration was significantly higher in intervention group 72.2% versus 58.3% in control group (p-value 0.004), regarding subcutaneous administration practice skills was also significantly higher among students in intervention group 88.9% compared to control group 50% (p-value 0.001), and for intramuscular administration skills, the nursing students in intervention group demonstrated higher practice 83.3% compared to 66.7% of control group (p-value 0.003), the total nursing students' practice for vaccine administration was satisfactory by 81.5% in intervention group compared to 58.3% in control group. (table 2).

**Tables:****Table 1: The demographic variables between nursing students participated in intervention and control groups,**

C GPA = Cumulative Grade Point Average

Demographic characters		Intervention group	Control group	<i>p</i> -value
Age	Mean ± SD	22±4	22±3	0.07
cGPA	Mean ± SD	3.5±0.5	3.6±0.7	0.08

**Table 2: The level of practice related to vacci  
Albaha University.**

Type of vaccine		Intervention group	Control group	<i>p</i> -value
Oral administration	Satisfactory	13 (72.2%)	7 (58.3%)	0.004*
	Unsatisfactory	5 (27.8%)	5 (41.7%)	
SC administration	Satisfactory	16 (88.9%)	6 (50%)	0.001*
	Unsatisfactory	2 (11.1%)	6 (50%)	
Intramuscular administration	Satisfactory	15 (83.3%)	8 (66.7%)	0.003*
	Unsatisfactory	3 (16.7%)	4 (33.3%)	
Total practice	Satisfactory	81.5%	58.3%	0.002*
	Unsatisfactory	18.5%	41.7%	

\* Significant

SC subcutaneous

### Discussion:

The nursing students' practice skills was significantly higher in intervention group compared to control group regarding oral administration, subcutaneous administration, and intramuscular administration.

The total overall nursing students' practice in vaccination procedure at Al-baha was significantly high after intervention compared to control group. It was reported in previous studies among nurses or nursing students with different procedure similar findings; in one previous study conducted 2018 in Iran on investigated the effect of bedside teaching on critical care nurses' performance in airway suctioning showed that using bedside approach for teaching suctioning procedures for nurses improved their skills related to the procedure (Ziyaeifard et al., 2018). Other previous study was conducted by Aneessa E, to assess the effect of bedside teaching on nursing students performance in neurological assessment which showed that the bedside teaching with clinical procedure was more effective than the clinical procedure without bedside teaching in improving performance in neurological assessment (Aneessa, 2009). It was also reported that nursing students performance have improved after intervention related to psychiatric nursing (Ahmed, 2019).

The bedside teaching is essential in nursing education, it was showed that in one study conducted on non-bedside teaching during COVID-19 pandemic that non-bedside teaching might not adequately enough for physician physical examination (Heitmann et al., 2022).

Furthermore, nursing students developed good practice skills in vaccination procedure after intervention compared to medical students. It was found in one review conducted on medical students' performance in bedside teaching that it could be helpful and is not substitute for other clinical education (Narayanan and Nair, 2020). It was also reported in one study by Gong 2022,

conducted on medical students that bedside teaching improved performance skills and clinical reasoning and counselling skills of students (Gong et al., 2022). This study has several limitations include that it was conducted among convenience sample in one Saudi university which lacks its generalizability, it is also quasi experimental study which lacks randomization in the groups' selection since each group over one separate semester.

### Conclusion:

The study concludes that intervention for vaccine administration among nursing students have improved their performance skills for oral, subcutaneous, and intramuscular administration of vaccine during their clinical practice of community health nursing course.

### Recommendations:

The author recommends that bedside teaching should be integrated in nursing curriculum and students' mentors should be trained to implement that in different subjects. Further research should be conducted to assess the effectiveness of bedside teaching in other topics and in other nursing subjects.

### References:

- AHMED, K. A. M. M. 2019. EFFECTIVENESS OF BEDSIDE TEACHING ON NURSING STUDENTS' KNOWLEDGE AND SKILLS IN MENTAL HEALTH AND PSYCHIATRIC TRAINING. *Global Scientific Journals*, 7, 1-29.
- ANEESSA, E. K. 2009. Neurological assessment, bedside teaching and nursing students clinical performance.
- CHERAGHI, R., JASEMI, M. & NAMADI, F. 2019. Effectiveness of the clinical teaching associate model in clinical nursing education. *Nursing and Midwifery Studies*, 8, 132.
- DEHGHANZADEH, S. & JAFARAGHAEI, F. 2018. Comparing the effects of traditional lecture and flipped classroom on nursing students' critical thinking disposition: A quasi-experimental study.

- Nurse education today*, 71, 151-156.
- FARZI, S., SHAHRIARI, M. & FARZI, S. 2018. Exploring the challenges of clinical education in nursing and strategies to improve it: A qualitative study. *Journal of education and health promotion*, 7.
- GONG, J., DU, J., HAO, J. & LI, L. 2022. Effects of bedside team-based learning on pediatric clinical practice in Chinese medical students. *BMC Medical Education*, 22, 1-8.
- HAYAT, A. A., KESHAVARZI, M. H., ZARE, S., BAZRAFCAN, L., REZAEI, R., FAGHIHI, S. A., AMINI, M. & KOJURI, J. 2021. Challenges and opportunities from the COVID-19 pandemic in medical education: a qualitative study. *BMC Medical Education*, 21, 1-13.
- HEITMANN, H., WAGNER, P., FISCHER, E., GARTMEIER, M. & SCHMIDT-GRAF, F. 2022. Effectiveness of non-bedside teaching during the COVID-19 pandemic: a quasi-experimental study. *BMC Medical Education*, 22, 1-7.
- NARAYANAN, V. & NAIR, B. R. 2020. The value of bedside teaching in undergraduate medical education: a literature review. *MedEdPublish*, 9, 1-10.
- NURUNNABI, M. 2021. The preventive strategies of COVID-19 pandemic in Saudi Arabia. *Journal of Microbiology, Immunology, and Infection*, 54, 127.
- RYKKJE, L., SØVIK, M. B., ROSS, L., MCSHERRY, W., CONE, P. & GISKE, T. 2022. Educational interventions and strategies for spiritual care in nursing and healthcare students and staff: A scoping review. *Journal of clinical nursing*, 31, 1440-1464.
- SHEHATA, H. B., EL-SAMMAN, G. A. & AHMED, S. M. Effect of Educational program for nurses on their knowledge and Practice regarding obligatory vaccination for children.
- SHETTY, P. A., MAGAZINE, R. & CHOCTU, B. 2021. Patient outlook on bedside teaching in a medical school. *Journal of Taibah University Medical Sciences*, 16, 50-56.
- ZIYAEIFARD, M., SADEGHI, A., FERASATKISH, R., FATAHI, M., BASIRAT, M. & HASHEMI, K. 2018. The effect of bedside teaching on critical care nurses' performance in airway suctioning.